



LTSI :

Long Term Support Initiative

Status update and discussion

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Agenda

- Status of Linux kernel development and maintenance of long term kernel
- LTSI Introduction and status update
- Discussion about Issues

Latest kernel version

- Latest Linux kernel release is 3.6
- Latest -rc release is 3.7-rc4
- Stable release : 3.5.7, 3.6.6
- Long-term release:
 - 2.6.27.62
 - 2.6.32.60
 - 2.6.34.13
 - 2.6.35.14
 - 3.0.51
 - 3.2.33
 - 3.4.18

Linux kernel: release date, # of files and lines

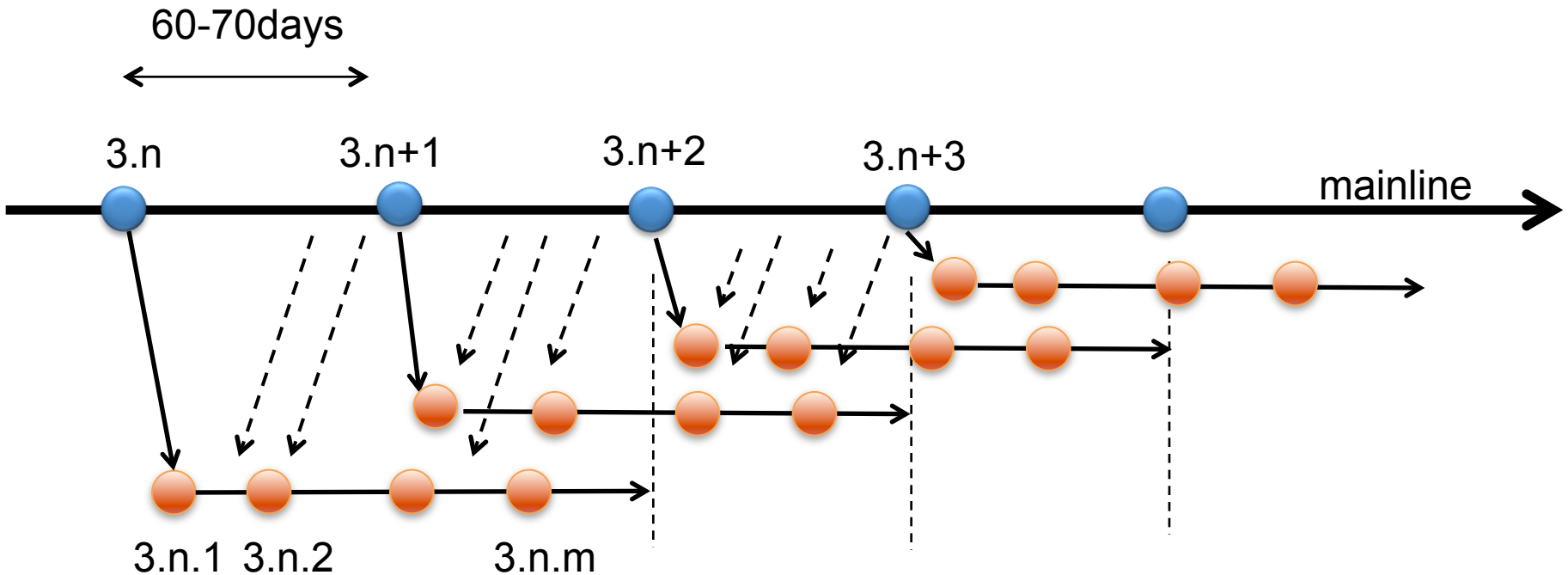
Version	Release date	# of Files	# of Lines	
3.6	2012-10-1	39,733	15,868,122	(+1.7%)
3.5	2012-7-21	39,096	15,596,464	(+1.4%)
3.4	2012-5-22	38,566	15,383,946	(+1.4%)
3.3	2012-3-19	38,082	15,166,160	(+1.1%)
3.2	2012-1-5	37,617	14,998,737	(+1.5%)
3.1	2011-10-28	37,085	14,770,555	

Released
60-70 days

500 Files added,
200,000 Lines of code added
for a version

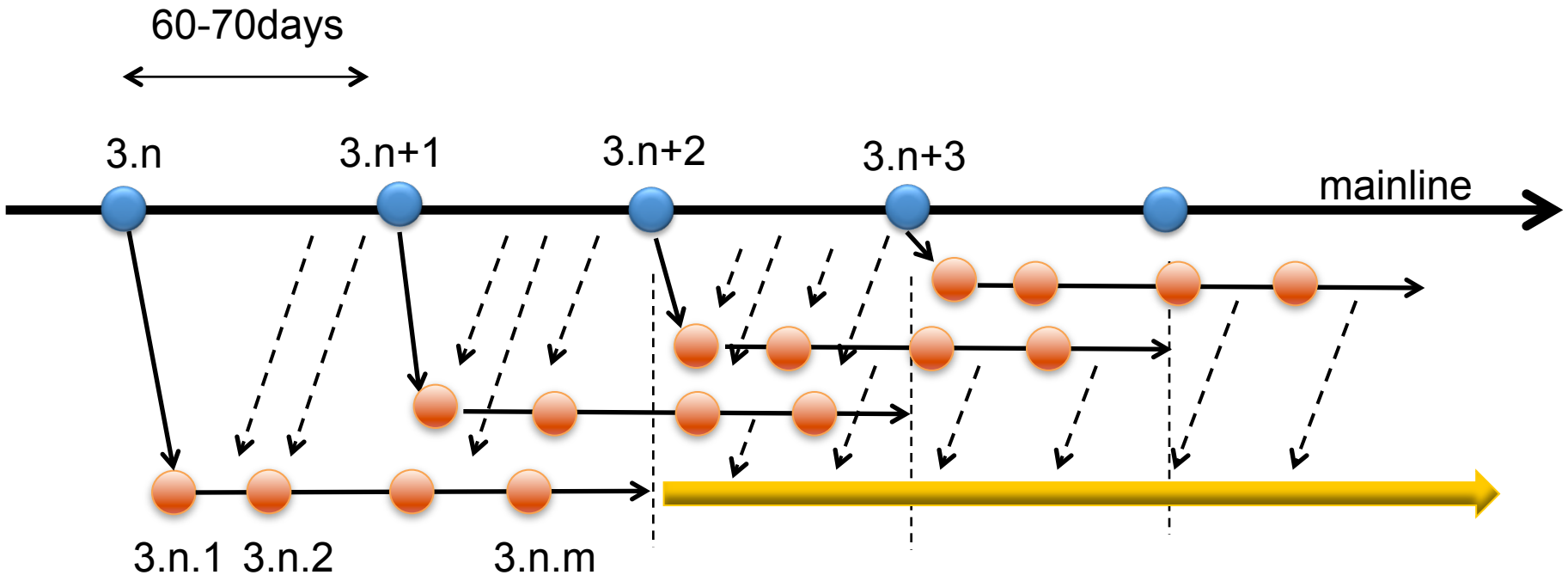
Stable kernel release

- After release of a kernel(n) , stable release branch will start to maintain until n+2 version released
- Stable release will only include bug/security fixes found in latest version and back ported



Maintaining long term stable kernel

- Take over maintenance of “stable release” and continue backporting to specific long term kernel version
- Maintainer should have trusted relationship among kernel development community



List of long term kernel

Version	Release Date	Latest Ver.	Latest Date	How long days?	Maintainer
2.6.27	2008-10-09	2.6.27.62	2012-03-18	1256	Willy Tarreau
2.6.32	2009-10-03	2.6.32.59	2012-10-09	1102	Willy Tarreau
2.6.34	2010-05-16	2.6.34.13	2012-08-20	827	Paul Gortmaker
2.6.35	2010-08-01	2.6.35.14	2012-03-14	591	Andi Kleen
3.0	2011-07-21	3.0.51	2012-11-5	473	Greg KH
3.2	2012-01-04	3.2.33	2012-10-31	301	Ben Hutchings
3.4	2012-05-20	3.4.18	2012-11-5	169	Greg KH

Major purpose of long term kernels

- 2.6.27: SUSE11
- 2.6.32: SUSE11 RC2/RHEL 6/Ubuntu10.4 LTS
- 2.6.34: Wind River Linux
- 2.6.35: Embedded usage, Android Ginger Bread
- 3.0: *LTSI*, Android Ice Cream Sandwich
- 3.2: Debian7, Ubuntu 12.04 LTS
- 3.4: *LTSI*

Key activity of LTSI

- Provide a industry managed kernel and maintain Long term stably
- Provide a common place for embedded industry
- Provide place to support upstream activity



LTSI: Industry managed kernel



- LTSI defines common kernel every year and maintains for 2 years
- LTSI adopts community Long term kernel as a base. Therefore, bug/security fixes from upstream are automatically applied to LTSI.
- LTSI kernel = long term + additional patches
- After 2 years term finished, possible to take over maintenance for longer term

LTSI: Common place

- LTSI provides the place to share information and experience among industry
 - Mailing list to share problem and discuss how to solve . Discussion to include features into LTSI
 - Open Workshop to share status among the industry
 - Closed meeting : Industry Contact Meeting for more deep F2F discussion among the industry people
- Share the information will reduce the development cost

LTSI: Support upstream activity



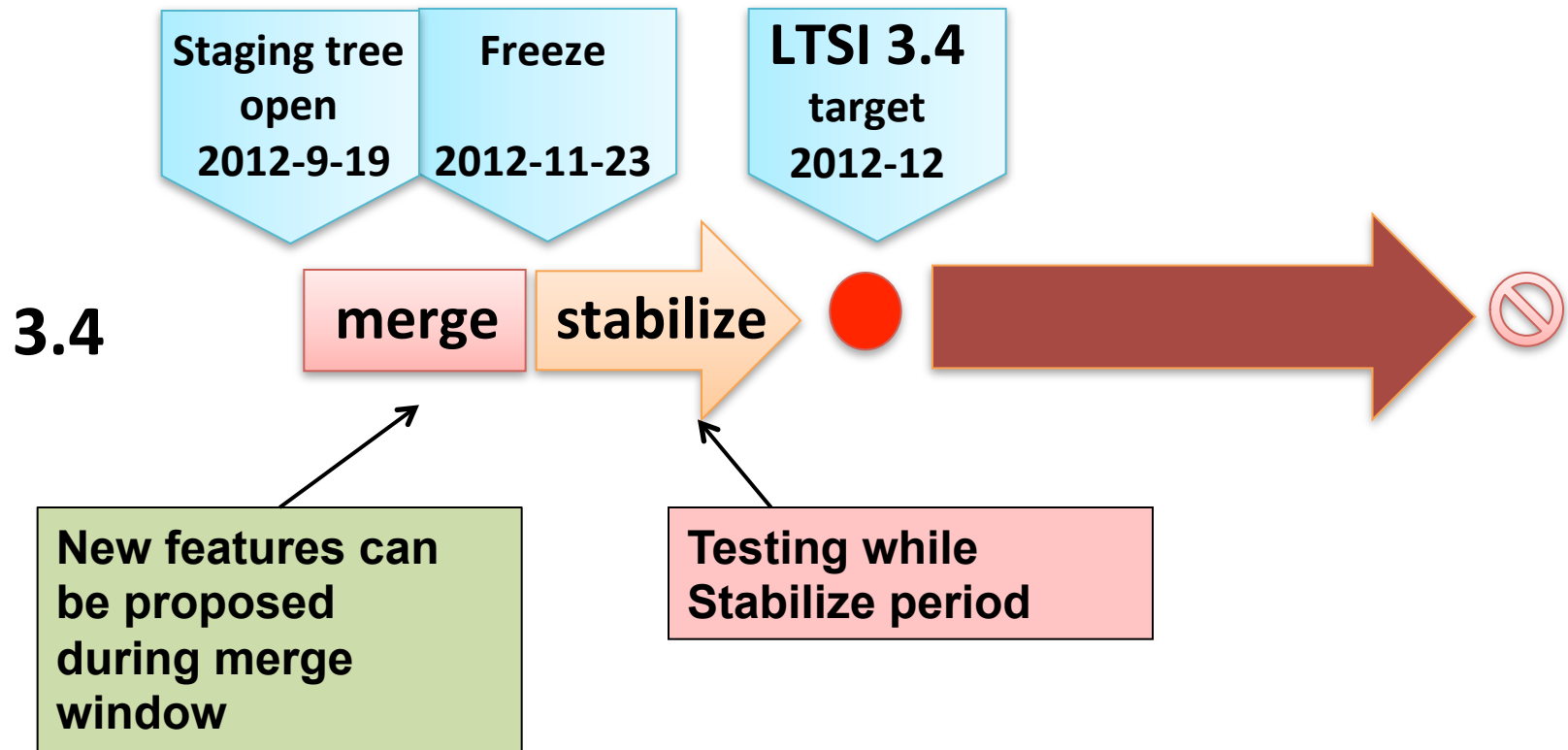
- Developer in the embedded industry need to know how to work with community
- LTSI provides help upstream activities
 - Provide suggestion how their patches can be merged into upstream
 - Review and discussion for proposed patches to be merged
 - Many of discussion under way
- Merging patches to upstream is also reduce the cost of each companies

History



- 2011.10.26 LTSI project lunched
- 2012.01.31 Greg Kroah-Hartman became LTSI maintainer
- 2012.02.16 LTSI 3.0 merge window opened
- 2012.05.31 LTSI 3.0 merge window closed
- 2012.06.08 1st Industry Contact Meeting ICM @Yokohama
- 2012.07.30 LTSI 3.0 code released
- 2012.08.28 Announced Joint roadmap with Yocto. Project
- 2012.08.29 LTSI Open Workshop @San Diego
- 2012.09.19 LTSI 3.4 merge window opened

LTSI 3.4 release plan



Relationship with Yocto project

- Yocto and LTSI had announcement about joint roadmap (28 Aug. 2012)
 - YOCTO Project announced V1.3 release in Oct. 25 and it includes Linux 3.4 kernel support
 - Next V1.4 will support LTSI3.4 as well as most recently released mainline kernel. Tentatively scheduled for 1st half of 2013
 - Subsequent release of Yocto will maintain for both most recent mainline kernel and LTSI

Automotive Linux and LTSI

- Requirement for software maintenance in automotive industry is very high
- Especially, maintenance period of time for software will become more than 10 years
- People consider that LTSI is possibly useful for automotive industry

Discussion

Current situation -1-

- A large amount of patches are from a few party, not broad range of people
 - Some party sent patches and get a good result
 - Holding in-house patch will increase cost of maintenance for the future
 - Such patch merger will decrease development cost
 - Also, good chance to get feedback from out side of the company

Current situation -2-

- Share information among industry using LTSI is not so much
 - Still we can have a meeting for both open and close
 - Meetings and discussions individually are on going
 - There are number of issue to be shared but no questions raised
 - Sharing such question and answers in the industry is decrease development cost

Current situation -3-

- A few party is interested in participation to the community but others are same as before
 - Upstreaming to mainline is bit hard for newbies but LTSI support such people
 - Nothing is changed if stay same as before

How you can participate LTSI

- Follow on Twitter account:

@LinuxLTSI



LinuxLTSI

@LinuxLTSI

LTSI stands for Long-Term Support Initiative. A group of CE Working Group of the Linux Foundation to provide Long-Term and stable Linux for Industry

- Web:

<http://ltsi.linuxfoundation.org>

- Mailing list:

<https://lists.linuxfoundation.org/mailman/listinfo/ltsi-dev>

- Git tree :

<http://git.linuxfoundation.org/?p=ltsi-ernel.git;a=summary>

THANK YOU

